

2007 – 2008

Annual Report to the MPCA for the City of Brainerd's MS4 General Permit

June 2008



City of Brainerd
City Hall 501 Laurel Street
Brainerd, MN 56401

Annual Report to the MPCA for the 2007 – 2008 Year

Table of Contents

Introduction	4
Status of Compliance with Permit Conditions – Assessment of BMP's	4
(1-1) Newsletter Articles	4
(1-2) City Website – Stormwater Informational Page.....	5
(1-3) Storm Water Brochures/Handouts	5
(1-4) 30 Day Public Notice for Annual Storm Water Meeting	6
(1-5) Pet Waste Signage in the Parks	6
(1-6) Coordination with Local Agencies and Groups.....	7
(2-1) Annual Spring Cleanup	7
(2-2) Planning & Zoning Commission	7
(2-3) Annual Storm Water Public Meeting.....	8
(2-4) Public Comment/Complaint Procedures.....	8
(3-1) Storm Sewer Map	8
(3-2) Illegal Dumping Regulations	9
(3-3) Septic System Maintenance Program	9
(3-4) Sanitary Sewer Maintenance Program.....	9
(3-5) Pet Waste Control Ordinance.....	9
(3-6) Phosphorus Turf Fertilizer Use Ordinance	10
(3-7) Illicit Discharge and Illicit Connection Ordinance and Enforcement.....	10
(3-8) Illicit Discharge Inspection Program	10
(4-1) Construction Site Runoff Regulations.....	10
(4-2) Storm Water Management Plan, Review, & Approval Procedures.....	10
(4-3) Erosion Control Inspection	10
(4-4) Pre-construction Meeting	11
(4-5) Minimum ESC BMP Standards.....	11
(4-6) Construction Site Waste Control.....	11
(5-1) Stormwater Management Criteria for Permanent Facilities.....	12
(5-2) Zoning Ordinance	12
(5-3) Green Space Requirement	12
(5-4) Wetland Requirements	12
(5-5) Comprehensive Plan.....	12

(5-6) Mississippi Headwaters Regulations	12
(5-7) Shoreland Management	13
(5-8) Long-term Operation and Maintenance of BMP's	13
(5-9) Plan Review Process	13
(6-1) Municipal Operation and Maintenance Programs	13
(6-3) Street Deicing Program	14
(6-4) MS4 Outfall, Pond and Sediment Basin Inspection	14
(6-5) Structural Pollution Control Device (SPCD) Inspection	15
(6-6) Exposed Stockpile, Storage and Material Handling Area Inspection	15
(6-7) Inspection Analysis and Frequency	15
(6-8) Record Keeping and Reporting.....	15
(7-1) Discharge Affecting Source Water Protection Areas.....	16
(7-2) Restricted Discharge Waters	16
(7-3) Trout Waters	16
Future Storm Water Activities to be Undertaken.....	16
Changes in Best Management Practices (BMP's)	16
Report Preparer	17

APPENDIX

- A. SWPPP Annual Tracking Documents**
- B. Brainerd Public Utilities Newsletter Articles**
- C. Brochures/Handouts**
- D. Pet Waste Signage**
- E. Annual Storm Water Public Meeting Summary**
- F. Storm Water Complaint Form**
- G. Storm Sewer Map**
- H. Storm Water and Urban Runoff Pollution Control Ordinance**
- I. Erosion & Sediment Control Ordinance**
- J. Storm Water Management Plan Checklist**
- K. Erosion Control Inspection Checklist**
- L. Preconstruction Checklist**
- M. Storm Water Management Ordinance**
- N. Inspection Forms**
- O. Map of Restricted Discharge Area**
- P. Percentage of Impervious Narrative**

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Introduction

This report is a summary of all activities related to the City of Brainerd's MS4 permit for the past 12 months. The report contains information on what the City has done to meet the Best Management Practices (BMP's) that were outlined in the permit. Records are attached documenting the items that were accomplished throughout the year. The future storm water activities that will be undertaken in the future are also outlined in the report. Also included is an update of the changes that were made to the BMP's identified in the SWPPP.

Status of Compliance with Permit Conditions – Assessment of BMP's

The following is a summary of each BMP and the progress that was made in completing the tasks associated with the BMP's.

(1-1) Newsletter Articles

The City developed a list of educational material to be inserted in the Brainerd Public Utilities monthly news letter Watt's News. Article's for each minimum control measure were developed and are as follows:

1. Public Education & Outreach
 - What is Storm Water?
 - Where does rainwater go?
 - What is an MS4?
 - What does my stormwater utility pay for?
2. Public Participation & Involvement
 - Annual Spring Cleanup
 - Annual Storm Water Public Meeting
3. Illicit Discharge Detection & Elimination
 - Phosphorus Turf Fertilizer Ordinance
 - Illicit Discharge and Connection Ordinance
 - Report Illegal Dumping – Only Rain Down the Drain
4. Construction Site Runoff Controls
 - Construction Site BMP's
5. Post Construction Storm Water Management
 - Rainwater Gardens
6. Pollution Prevention/Good Housekeeping
 - Pet Waste Cleanup
 - Lawn Care
 - Automotive Care
 - Snow and Ice Control

The articles that have been used and will be used in future newsletters are included in Appendix B. Articles began to be inserted into the newsletter in the January 2008 issue. Currently seven articles have been printed in the newsletter. The newsletter is sent monthly to all Brainerd Public Utility customers which is approximately 6,800 households. The City will continue to develop new articles and insert them each month into the newsletter.

(1-2) City Website – Stormwater Informational Page

The City developed a storm water page to give information on all storm water issues. The website is located at www.ci.brainerd.mn.us/engineering/stormwater. The web page began operating in December of 2007 and will be updated throughout the year as more information becomes available.

The following is a list of items that are discussed or will be discussed on the website:

- Description of Storm Water Management
- Brainerd's MS4 Permit and SWPPP
- Storm Water Map
- Drainage Areas/Impaired Waters Map
- All BPU newsletter article created
- Factsheet/brochures created about storm water
- Stormwater ordinances descriptions
- Stormwater management plan checklists
- Erosion and Sediment Control BMP standard details
- Permit Forms
- Links to other stormwater and erosion control websites
- Link to report illicit discharges
- Notice for Annual Storm Water Public Meetings
- Storm Water Public Meeting Information
- Annual MS4 Reports to MPCA

Currently the City has no way of tracking how many visitors have viewed the website. The City will try to implement a tracking standard in the near future.

(1-3) Storm Water Brochures/Handouts

The City developed an erosion and sediment control brochure explaining the minimum BMP's that are to be used on construction sites.

A Single Family Erosion Control Brochure for Residential Construction was also developed. This brochure outlines the specific requirements that are need for single family home construction. This brochure is distributed to all single family home building applicants and is available on the City website and at City Hall.

The City began distributing the pamphlets February 2008 with all building permits. They will also be distributed at construction sites where deficiencies have been found during an inspection.

The City also developed a Home Owner/Business Factsheet Brochure that gives BMP suggestions to residents and businesses on how they can help protect storm water. This brochure is available on the website and also is available for pickup at City Hall.

Copies of the brochure were available at the Annual Storm Water Meeting. The brochures were also made available to the public at the Homebuilders Show and at the Commerce and Industry Show which the City had a booth at.

A copy of each brochure is included in Appendix C. Additional brochures will be developed addressing different storm water issues in the future.

The City has been in contact with other agencies in regards to brochures they may have for distribution at City Hall. The following are the agencies that have been contacted or will be contacted.

- Minnesota Pollution Control Agency
- Minnesota Department of Transportation
- Minnesota Department of Natural Resources
- Minnesota Department of Health
- Soil Water Conservation District
- U of M Extension Service
- Crow Wing County
- City of Baxter

(1-4) 30 Day Public Notice for Annual Storm Water Meeting

The Annual Public Storm Water Meeting was held March 3, 2008. The City posted notices the last week of January in the Brainerd Daily Dispatch (official newspaper). The City also posted notice on the City Hall bulletin board. It was also posted on the new stormwater page developed by the City.

The City received no written comments on the Public Notice procedures.

(1-5) Pet Waste Signage in the Parks

The City currently posts signs in the parks making the public aware of the City's regulations regarding picking up pet waste. Currently there are three types of signs that have been used (Appendix D). The Parks Department has been installing signs on an as needed basis. There are a total of 5 signs in all the parks. The amount of signs in each park is as follows:

Park	Amount of Pet Waste Signs
Bane Park	0
Buffalo Hill/Lions Park	0
Gregory Park	3
Hitch Wayne Park	0
Jaycees Park	0
Kiwanis Park	0
Lum Park	1
Memorial Park/Mill Field	0
Mill Avenue Park	1
Mississippi River Landing	0
O'Brien Park	0
Triangle Park	0
Park Totals	5

An article regarding pet waste cleanup was developed for the BPU newsletter and will be inserted next year into an issue (Appendix B). The article has been posted on the City website.

(1-6) Coordination with Local Agencies and Groups

The City contacted the MPCA (Baxter Office), the Minnesota Department of Natural Resources, Crow Wing County, the City of Baxter and the Crow Wing County Soil and Water Conservation District in regards to educational material to distribute. The MPCA provided homeowner factsheets which are attached to all residential building permit applications. The City will continue to coordinate with other agencies to distribute educational materials that are available. The City also put a link on its website to each of these Agency's websites.

(2-1) Annual Spring Cleanup

The City continued its current policy of helping assist during the annual spring cleanup. The City worked with neighborhood groups to make the event a success. The North and Northeast neighborhood groups participated in the event. The event was held on Saturday May 31, 2008. Approximately 30 people helped volunteer at the event. Cleanup included removing debris and junk from resident's yards. Approximately 2.5 roll offs of metal, 75 electronic devices, 55 mattresses, and 126 tires were removed and taken to the landfill or a recycling place and disposed. The City assisted by helping fund the event.

(2-2) Planning & Zoning Commission

Currently the Planning & Zoning Commission meets once a month and reviews ordinance changes, preliminary and final plan layouts for development and preliminary review of grading and drainage plans.

During the 2007 year the Commission reviewed approximately 0 plats and 10 plans.

The current members of the Planning and Zoning Commission are as follows:

- Jan Lambert (public)
- Angie Plantenberg (public)
- Bob Sherman (public)
- Rick Cole (public)
- Eric Makowski (public)
- Mike Jay (public)
- Bonnie Cumberland (Council Liaison)

(2-3) Annual Storm Water Public Meeting

The annual storm water public meeting was held March 3, 2008 at City Hall in the Council Chambers. 23 public attended the meeting. No comments and complaints were received. The minutes and a summary of the meeting are included in Appendix E. The meeting, like all public meetings for the City of Brainerd, was aired on a local public television channel.

Items discussed at the meeting included status of all the BMP's that are being implemented by the City, future changes to the SWPPP, and future stormwater related activities to be performed by the City.

(2-4) Public Comment/Complaint Procedures

The City developed a comment and complaint procedure to deal with public comment and complaints regarding illicit discharges and construction site runoff. In order to receive information about an illicit discharge or construction site runoff issue, contact information was given to the public. Information has been posted on the City website, and articles have been inserted the BPU's newsletter and in publications (brochures) on how the public can contact the City to alert them of a complaint or comment on an illicit discharge. The public can call the City Engineering Department or email them through a special stormwater email account.

The City developed a form to be completed when a complaint is received (Appendix F). When a complaint or comment is received it will be recorded on a form. The issue will be looked into and resolved as needed. The issues found and actions taken to correct the problem will be recorded on the form. The form will be filed in an MS4 file for record keeping and reporting to the MPCA in the annual report. For the year there were no complaints in regards to illicit discharges and no complaints in regards to construction site runoff.

(3-1) Storm Sewer Map

The City has completed the Storm Sewer Map showing all storm water features in the City of Brainerd. A copy is attached in Appendix G. It is also displayed on the City Website.

The map was made by using GPS and taking the coordinates of all structures. This data was then incorporated with existing plans and maps to create the final storm water map.

The map includes all structural pollution control devices, MS4 outfalls, ponds/basins, ponds, rivers lakes and streams within the City.

The map will continue to be updated in the future to add additional information to and to account for any changes or additions to the storm sewer system.

(3-2) Illegal Dumping Regulations

The City's current ordinance regarding illegal dumping was reviewed. In accordance with BMP 3-8, an illicit discharge ordinance was added to the City Code.

The ordinance was adopted December 17, 2007(Appendix H) and is on the City Website available for viewing.

According to City records, five enforcement actions were taken in regards to illegal dumping. For illicit discharges, no enforcement actions were taken.

(3-3) Septic System Maintenance Program

The City continued its current septic system maintenance program. This includes not allowing new septic systems where sewer service is available. Also, if a building permit application is submitted, the septic system must be inspected for compliance prior to building occupancy.

The City took a count of all existing septic tanks within City Limits. According to the City count, there are approximately 92 septic systems located in the City. The majority of these septic tanks are located in areas that recently were annexed into the City. Of these systems, none were known to have failing systems. About half of the systems have sewer available but are not required to hook up until their system fails. The remaining systems do not have sewer available at this time for hookup.

Due to sanitary sewer extension and septic replacement, approximately one septic system was removed.

(3-4) Sanitary Sewer Maintenance Program

The City continued its maintenance of the existing sanitary sewer system. During the past year approximately 35,850 linear feet of sewer were inspected, flushed and rodded. The Brainerd Public Utilities continued to inspect the lift stations and made sure all systems were in operating condition.

There were no sewer backups that caused a discharge to the storm sewer system in the past year.

(3-5) Pet Waste Control Ordinance

The City has an ordinance (City Code Section 900) regarding Pet Waste Control. The ordinance is available on the City Website. According to City records, no enforcement actions were taken.

(3-6) Phosphorus Turf Fertilizer Use Ordinance

The City has an ordinance (City Code Section 535) in regards to phosphorus turf fertilizer use. The ordinance is available on the City Website. According to City records, no enforcement actions were taken.

(3-7) Illicit Discharge and Illicit Connection Ordinance and Enforcement

The City adopted an illicit discharge and illicit connection ordinance on December 17, 2007. The Storm Water and Urban Runoff Pollution Control ordinance (City Code Section 720) is included in Appendix H and is available on the City website for viewing. The ordinance defines what an illicit discharge and connection is and lays out enforcement for violating the ordinance.

The total number of illicit discharges eliminated in the City during the past year none.

(3-8) Illicit Discharge Inspection Program

The City began inspecting and documenting inspections of all the MS4 outfalls, SPCDs and ponds/basins to try to identify any illicit discharges. Most inspections took place when there was dry weather so illicit discharges could be more easily identified. The inspections took place using a standard form for each type of system that was inspected. The inspection forms are included in Appendix N.

The City inspected 30 or 28% of all outfalls in the City. They inspected 6 or 23% of all ponds/basins in the City. There were no SPCD to inspect.

During the course of inspections no illicit discharges were found. No additional illicit discharges were located due to citizen concerns.

(4-1) Construction Site Runoff Regulations

The City reviewed its current ordinance in regards to construction site runoff. It also reviewed what other cities had. The existing Erosion Control ordinance for the City was revised and updated on December 17, 2007. A copy of the revised Erosion and Sediment Control ordinance (City Code Section 430) is attached to Appendix I and is also available on the City website.

(4-2) Storm Water Management Plan, Review, & Approval Procedures

The City reviewed 12 SWMP's in the 2007 year. The reviews are completed by the City Engineer and staff to determine if it meets basic minimum requirements. Only when the SWMP is approved can a permit be issued or construction of a subdivision may begin. A standard checklist has been developed so the public knows the minimum requirements that are required (Appendix J). The checklist is also used to track the amount of plans reviewed for reporting purposes.

(4-3) Erosion Control Inspection

The City reviewed its construction site erosion control inspection process. During the review it was determined that the City needs to develop a process for inspections and a checklist to follow.

The City developed a standard inspection checklist for field personnel to follow so all inspections are similar in nature. The checklist was based off the checklist the MPCA uses for its field inspections. A copy of the field inspection checklist is in Appendix K.

The City will conduct inspections on all projects that have building or grading permits. For building sites, an inspection will be triggered when the applicant calls for a footing or framing inspection. Inspections will also occur when the Engineering Department is notified by the public of a problem or if a problem is observed by City Staff during an inspection or while driving by the site.

Though May 2008, one site was inspected a total of one times. The site was in compliance. The City will step up its inspection efforts this year as this is the first full year the City will have their inspection program in place.

(4-4) Pre-construction Meeting

The City developed a standard pre-construction checklist for erosion and sediment control on construction sites. A copy of the checklist is included in Appendix L.

The City also developed a policy in which a preconstruction meeting would be held. All City projects will continue to have a preconstruction conference before work begins. On private projects disturbing greater than 10 acres, a preconstruction conference will be required to be held by the Owner and Contractor in which the City is invited to. The City will go through its checklist to make sure the Owner and the Contractor are aware of the erosion and sediment control required by the City.

(4-5) Minimum ESC BMP Standards

The City reviewed existing ESC BMP standards and requirements. The City revised and updated its Erosion and Sediment Control Ordinance (City Code Section 430) on December 17, 2007. The new ordinance (Appendix I) addresses all construction sites in the City of Brainerd and makes sure they meet minimum basic erosion and sediment control practices. The ordinance states all state, federal and other regulating authority's regulations must be met in addition to the City's requirements.

To help the public understand what minimum erosion and sediment control items will be required on a construction site, an erosion and sediment control brochure was created (Appendix C). Both are also available on the City website.

(4-6) Construction Site Waste Control

As part of updated the Erosion Control Ordinance (City Code Section 430), the City added a construction site waste control subdivision to the ordinance. The ordinance requires all construction sites to meet basic standard requirements for site waste control. The ordinance can be found on the City Website and is also attached in Appendix I.

(5-1) Stormwater Management Criteria for Permanent Facilities

During the past year the City revised its Stormwater Management Ordinance (City Code Section 725) (Appendix M). A major part of the ordinance revision was the permanent storm water management criteria. Minimum requirements for wet sedimentation ponds and infiltration ponds were established. Minimum inspections and maintenance of the ponds was addressed in the ordinance.

During the past year no permanent storm water facilities were installed in the City.

(5-2) Zoning Ordinance

The City completed reviewing and updating its Zoning Ordinances in December of this year. The entire revised zoning ordinance is available on the City Website. Major revisions relating to storm water included:

- Green Space Requirements
- Impervious Requirements
- Set Back Requirements
- Lot Size Requirements

(5-3) Green Space Requirement

The City currently requires green space standards for most developments/re-developments. The City will continue to be reviewed to see if additional requirements are necessary.

(5-4) Wetland Requirements

Currently the City has an ordinance in place dealing with protecting wetlands. The City has met with the Crow Wing County Soil and Water Conservation District and discussed revisions to the City ordinance in regards to wetland conservation. Possible revisions to the ordinance that has been discussed are buffer limits and discharges to wetlands. The ordinance will be updated in the future upon further review.

(5-5) Comprehensive Plan

The City completed its Comprehensive Plan in 2004. The City will continue to use the Comprehensive Plan to guide development and redevelopment.

(5-6) Mississippi Headwaters Regulations

The City has included the Mississippi Headwaters Regulations in their City Code (Section 525). The City will continue to use the Mississippi Headwaters Regulations to guide development and redevelopment and to preserve the Mississippi River Corridor Districts.

(5-7) Shoreland Management

The City has a Shoreland Management ordinance in its City Code (Section 530). The City will continue to use the regulations to enforce and control development and redevelopment in shoreline areas.

(5-8) Long-term Operation and Maintenance of BMP's

The City will continue to require all permanent storm water management facilities to meet basic long term operation and maintenance needs. During the review of the SWMP the long term operation and maintenance of BMP's is review to see if they meet basic requirements. The City requires all permanent storm water facilities that will become part of the City's responsibility to be platted in a permanent easement. All facilities must be designed to minimize maintenance needs.

(5-9) Plan Review Process

The City will continue to review all plans for building and grading permits. All plans submitted before they are approved needs to be signed off by the Engineering Department which makes sure the plans meet the minimum storm water management requirements. With the new stormwater management requirements, the City will continue to review the SWMP submitted to make sure they comply with all applicable regulations. A standard checklist for SWMP's has been developed so the public knows the minimum requirements that are required and so the amount of plans reviewed can be tracked (Appendix J).

From August of 2007 to May of 2008 the City reviewed approximately 12 plans for compliance.

(6-1) Municipal Operation and Maintenance Programs

The City is currently reviewing its existing policies and procedures for operation and maintenance for all Parks and Street Department Employees. The City is working on developing a training component for the following items:

- Park and open space
- Stormwater maintenance
- Fleet and building maintenance
- New construction and land disturbances

(6-2) Municipal Street Sweeping Program

The City continued its current street sweeping practices during the past year. The City had planned on sweeping the streets in the spring and fall as is the normal operating procedure. This

year the City completed street sweeping during both these periods. The City also swept the downtown area once a week during the summer. Approximately 365 hours of street sweeping were completed by the City. This resulted in removing 577.5 cubic yards of material off the streets.

The two workers who performed the street sweeping activities are trained every year in proper street sweeping techniques.

The City also completed an evaluation of the need for a vacuum sweeper. Based on the input received from City personnel, other cities, and vendors, the immediate need for a vacuum sweeper does not exist. The overall need for this type of equipment is minimal and the cost is quite large. Therefore it is not cost effective or economically feasible at this time for this investment. The need for the vacuum sweeper will be reevaluated in 2010 when one of the existing street sweepers is scheduled to be replaced.

(6-3) Street Deicing Program

The City reviewed its current street deicing program. At this time the current salt/sand mixture will continued to be used. The City will continue to evaluate its salt sand use annually to determine if there is a better way.

The City reviewed its current salt training program. Currently all staff on the City street department staff has completed a MnDOT class on salt & sand application. Every other year they retake the course to get updates on the latest procedures. The City plans to continue this training program in the future.

During the winter of 2006-2007 approximately 170 CY of salt and 680 CY of sand were used. During the winter of 2007-2008 approximately 170 CY of salt and 680 CY of sand were used.

(6-4) MS4 Outfall, Pond and Sediment Basin Inspection

During the summer and fall of 2007, the City located and identified all outfalls and ponds/sediment basins. They are shown on the Storm Sewer Map shown in Appendix G.

The City developed standard inspection forms to be used during inspections of all MS4 outfalls and ponds/sedimentation basins. Copies of the Inspection Forms are included in Appendix N. The City plans to use these forms anytime an inspection takes place. Currently inspections take place after large rain events to outfalls and ponds that have been known to have some sort of problem in the past. Inspections will also be done over a particular region covering 20% of the outlets and basins each year so everyone is inspected over a five year period.

During the Fall of 2007 the City completed inspections on approximately 28% of outfalls and 23% of ponds and basins. The City inspected known problem outfalls and basins and focused regionally on the south side of the City.

During the inspections, illicit discharges were looked for. No illicit discharges were found and eliminated.

The inspections showed that the majority of the storm sewer system is operating as designed. From the inspections a few outlets were identified as need some repair. Typically more energy dissipation at the outlet was needed in the form of riprap to prevent erosion.

The inspections of the ponds showed that most ponds were in good condition. A few ponds needed sediment to be removed and this was done as needed.

(6-5) Structural Pollution Control Device (SPCD) Inspection

The City does not have any SPCD in the City.

The City developed a standard inspection form to be used during inspections of all SPCD. Copies of the Inspection Form are included in Appendix N. The City plans to use this form anytime an inspection takes place. Currently there are no SPCD to inspect. Future inspections will take place annually at a minimum and after large rain events for SPCD that will need more maintenance attention.

(6-6) Exposed Stockpile, Storage and Material Handling Area Inspection

The City developed a standard inspection form for exposed stockpiles, storage and material handling areas. Copies of the Inspection Form are included in Appendix N.

The City plans on inspecting these areas at least once a year and to use the form to complete each inspection.

During the fall of 2007, City staff inspected all stockpiles and storage and material areas.

During the inspections a few problem areas were found that will be addressed in the summer.

(6-7) Inspection Analysis and Frequency

After inspections were completed in the fall of 2007, the inspection procedures were reviewed. The current inspection process and form seems to be working well. The City will continue to inspect all storm sewer components in the same manner and continue to use the same forms.

(6-8) Record Keeping and Reporting

The City developed a record keeping policy to track all documents and forms related with the MS4 permit. All inspection forms completed by field crews will be submitted to the engineering department. All these documents will be scanned and kept on file. They will also be incorporated into the annual inspection report. All information gathered will be incorporated into this annual report to MPCA.

The City has implemented these procedures for this first annual report to MPCA and it has worked well so far.

(7-1) Discharge Affecting Source Water Protection Areas

Brainerd Public Utilities has completed Phase II of the Wellhead Protection Plan. The Minnesota Department of Health has approved this. Areas within the source water protection area have been determined for surface water intakes as was identified in the source water assessments. No revisions to the SWPPP are anticipated at this time due to Wellhead protection needs.

(7-2) Restricted Discharge Waters

A map of the restricted discharge area is included in Appendix O. The narrative estimate of percent impervious for current and future land use in the restricted discharge area is included in Appendix P.

(7-3) Trout Waters

The City reviewed past development in the Whitley Creek area to see if there were and new or expanded discharges to the creek. The City also made a visual inspection of the area within the City limits and found no new or expanded discharges.

The City is working on procedures and policies to deal with future developments and redevelopments that would discharge into the creek.

Possible ideas for the ordinance include controlling all discharges in the Whitley Creek sub drainage area to meet the 100 year – 24 hour storm pre-developed conditions. All water must be treated prior to discharge to meet the 5 year event.

Other ordinances considered are limiting the amount of impervious that can be created in the Whitley Creek watershed and creating additional buffers/setback from the creek itself.

Future Storm Water Activities to be Undertaken

The following is a summary of the activities that will be undertaken in the next year in regards to storm water management.

- Continue to inspect outfalls and sedimentation/infiltration ponds
- Continue to develop and distribute educational materials
- Will begin Erosion and Sediment Control Inspection Program
- Continue street sweeping program
- Continue to research effective ways of reducing storm water impacts

Changes in Best Management Practices (BMP's)

None of the BMPs identified in the SWPPP have been changed at this time. The BMPs will continue to be reviewed though out the year for any changes.

Report Preparer

This report was completed by staff of the City of Brainerd's Engineering Department.